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14			
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16	Space Data Corporation		
		TES DISTRICT COURT	
17		STRICT OF CALIFORNIA	
18	SAN JUSE	DIVISION	
19	SPACE DATA CORPORATION,	Case No.: 16-3260	
20	Plaintiff,	COMPLAINT FOR:	
21	v.	1. PATENT INFRINGEMENT UNDER	
22	W . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A D . A	35 U.S.C. § 1 <i>et seq.</i> ; 2. MISAPPROPRIATION OF TRADE	
	X, ALPHABET INC., and GOOGLE INC.,	SECRETS UNDER 18 U.S.C. § 1836;	
23	Defendants.	3. MISAPPROPRIATION OF TRADE SECRETS UNDER CALIFORNIA	
24		CIVIL CODE § 3426, et seq.; and	
25		4. BREACH OF WRITTEN CONTRACT.	
26		JURY TRIAL DEMANDED	
27			
28	   SPACE DATA CORP.'S COMPLAINT FOR, <i>IN</i>	TER ALIA, CASE NO.: 16-3260	
	PATENT INFRINGEMENT	- 2.1.12.11, Crist 110 10 3200	

4828-2761-2722

# Plaintiff, SPACE DATA CORPORATION ("Space Data"), by way of its Complaint against defendants, alleges as follows:

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#### NATURE OF THE ACTION

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1. Space Data, a United States company founded in 1997, has developed an innovative balloon-based telecommunications system to provide advanced messaging and other advanced

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environments.

wireless telecommunications services across the United States on a nationwide basis.

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system utilizes inexpensive weather balloons to carry radio transceivers (SkySat<sup>TM</sup> and SkySite<sup>TM</sup>)

Space Data is primarily focused on providing wireless services. The Space Data

Space Data spent many years developing SkySat<sup>TM</sup> and SkySite<sup>TM</sup>, amassing data to

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to altitudes between 60,000 and 100,000 feet where they hover, far above commercial

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aircraft. Space Data's balloon-borne system is one type of stratospheric high altitude

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communications platform. A constellation of approximately 70 balloons can provide ubiquitous

wireless coverage in the continental United States for voice and data services.

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make them work in the United States and on other continents for both military and commercial

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applications. After applying for a patent in 1999, Space Data continued to innovate and develop its

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proprietary technology in a continuing endeavor to adapt to the changing business and technology

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4. Defendants have launched what they call "Project Loon." Project Loon is a

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research and development project with the mission of providing wireless services. Project Loon

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was allegedly developed by Alphabet Inc. ("Alphabet") subsidiary "X" (previously "Google X"), a

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research and development entity that is a subsidiary of Alphabet. Like Space Data, Project Loon

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uses high-altitude balloons placed in the stratosphere at an altitude of about 18 km (11 mi) to create

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an aerial wireless network with up to 4G-LTE speeds (4G means the fourth generation of data

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technology for cellular networks following 3G, the third generation; LTE stands for Long Term

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Evolution and relates to a technical process for high-speed data for phones and other mobile

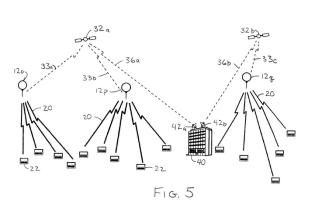
CASE NO.: 16-3260

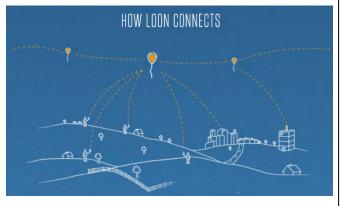
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devices).

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CASE NO.: 16-3260

Figure 1. From Space Data's U.S. Patent No. 6,628,941, Figure 2. From Project Loon's web site, showing a showing a schematic depiction of platform communications schematic depiction of platform communication links.

- 5. As set forth in detail below, Project Loon improperly and unlawfully utilizes Space Data's confidential information and trade secrets which Space Data disclosed to Defendant Google pursuant to a 2007 Mutual Confidentiality and Non-Disclosure Agreement ("NDA"). Space Data will further demonstrate that Project Loon infringes Space Data's patents. *See*, e.g., Fig. 1 and Fig. 2 above.
- 6. Accordingly, Space Data files this Complaint for: (1) infringement of United States Patent No. 6,628,941 titled "Airborne constellation of communications platforms and method" by Knoblach et al., ("the '941 Patent"), and United States Patent No. 7,801,522 titled "Unmanned lighter-than-air safe termination and recovery methods" by Knoblach et al., ("the '522 Patent") arising out of the patent laws of the United States, 35 U.S.C. § 1 *et seq.*; (2) misappropriation of trade secrets under the Defend Trade Secrets Act ("DTSA"), 18 U.S.C. § 1836; (3) misappropriation of trade secrets under California Uniform Trade Secrets Act, Civil Code § 3426, *et seq.*; and (4) breach of written contract. Counts I through IV are against Defendants X, Alphabet and Google Inc. ("Google"). X, Alphabet, and Google are referred to collectively as "Defendants" hereinafter.

# 

#### THE PARTIES

- 7. Space Data is an Arizona corporation, with its principal place of business at 2535 W. Fairview Street, Suite 101, Chandler, Arizona 85224-4707.
- 8. Alphabet is a Delaware corporation, with its principal place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043-1351. Alphabet is the successor issuer to, and parent holding company of, Google. Alphabet owns all of the equity interests in Google. The reorganization of Google into Alphabet was completed on October 2, 2015.
- 9. Google is a Delaware corporation, with its principal place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043-1351.
- 10. X is a Delaware corporation, with its principal place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043-1351. It is a research and development facility created by Google and (since October 2015) operated as a subsidiary of Alphabet.

#### **JURISDICTION AND VENUE**

- 11. Space Data brings its action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271 *et seq.* This Court has federal question subject matter jurisdiction over Space Data's patent infringement claims under 28 U.S.C. §§ 1331 and 1338(a).
- 12. This Court also has federal question subject matter jurisdiction under the DTSA, 18 U.S.C. § 1836. This Court has original jurisdiction over this controversy for misappropriation of trade secrets claims pursuant to 18 U.S.C. § 1836(c) and 35 U.S.C. § 1331. This Court has supplemental jurisdiction over the controversy for all other claims asserted herein pursuant to 28 U.S.C. § 1367.
- 13. Venue is proper in this District under 28 U.S.C. §§ 1391(c)-(d) and 1400(b) because (i) Defendants maintain their principal places of business in this District, and (ii) this is a District in which Defendants are subject to the Court's personal jurisdiction with respect to this action, and/or the District in this State where Defendants have the most significant contacts.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

Property Rights Agreement ("Employment Agreement"). SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

#### INTRADISTRICT ASSIGNMENT

14. Pursuant to Civil Local Rule 3-2(c), this intellectual property action would be properly assigned to any division within this district. The parties, however, agreed to adjudicate any dispute arising out of the NDA, which forms a basis for the trade secret allegations, in the state or federal court of Santa Clara County, California. *See* Exhibit A, hereto, at ¶ 17. Assignment to the San Jose Division would therefore be proper.

# SPACE DATA'S PATENTS, PROPRIETARY TECHNOLOGY, CONFIDENTIAL INFORMATION AND TRADE SECRETS

- 15. Jerry Knoblach, the CEO of Space Data, is co-inventor of numerous patents, including the '941 and '522 Patents (collectively "the patents-in-suit"). The patents-in-suit disclose an airborne constellation with a plurality of individual lighter-than-air platforms (e.g., balloons and associated payload equipment) spaced apart above a geographic area. Each of the platforms includes an enclosure holding a regulated volume of low density gas for buoyancy. Each of the plurality of balloons also includes a signal transmitting device attached to the enclosure by which signals from the platform may be transmitted to the contiguous geographic area.
- 16. Space Data is licensed by the Federal Communications Commission to provide narrowband personal communications services nationwide and has broadband spectrum licenses in remote and rural areas such as Alaska and the Gulf of Mexico. Space Data started offering commercial wireless services in 2004 from a constellation of altitude controlled balloons which drift in the stratosphere. Since that time, it has extended the technology to service the U.S. Armed Services with deployments on four continents. Space Data is currently testing a broadband 4G version of its SkySite<sup>TM</sup> Platform in partnership with a major wireless infrastructure vendor.
- 17. In addition to its patent portfolio, Space Data has taken extensive measures to protect its confidential information and trade secrets. For example, Space Data requires its employees to agree to protect any confidential and trade secret information of Space Data, and assign all ownership rights to technologies they work on or develop during their employment with Space Data pursuant to a Non-Disclosure, Non-Competition and Assignment of Intellectual

18. Examples of Space Data confidential information and trade secrets include, but are not limited to, accumulation of weather data, launch methods, launch timing, balloon types, altitude regulation, business methods, business models, financial information, technology solutions, and unique knowledge and interpretation of weather data, wherein this knowledge and interpretation is not available in public, which for example includes knowledge of the winds between 60,000 and 100,000 foot altitudes.

- 19. Space Data has gathered data on the environment in the stratosphere through the hundreds of thousands of flight hours of its various balloon-borne platforms. This data is much higher resolution than the publicly available data from government-sponsored weather agencies. The unique knowledge and the conclusions drawn from the data gathered offer competitive advantages in the planning, development and operation of constellations of free-floating stratospheric balloons platforms. These hundreds of thousands of flight hours also include data on the propagation of radio signals from stratospheric balloon-based transceivers to a wide variety of standard wireless user devices on the ground operating in various environments (outside, in buildings, under trees, etc.). Pursuant to the Employment Agreement, Space Data employees agree to maintain the confidentiality of Space Data's confidential information, technical data, trade secrets and/or know-how.
- 20. The Department of Defense has granted Space Data a Facility Clearance to handle classified information. As part of this facility clearance, Space Data undergoes regular audit and reviews by the Defense Security Service to ensure our nation's secrets are being properly safeguarded. This includes training of Space Data employees on how to safeguard information and how to recognize and counter common strategies by others to obtain sensitive information.
- 21. Space Data has expended significant amounts of time, effort, and money to ensure Space Data's information was not, and is not, disclosed or otherwise made publicly available, and to preserve and maintain the confidentiality of its trade secret information.
- 22. Space Data's confidential and trade secret information derives significant independent economic value, whether actual and/or potential, from not being generally known to

the public or competitors, or to other persons who can obtain economic value from their use or disclosure. Space Data also derives substantial business advantage and significant economic benefit from maintaining the ownership and confidentiality of confidential and trade secret information.

23. If this information, which Space Data has maintained as confidential or trade secrets, were disclosed to competitors and/or to the public, such disclosure would cause severe economic harm and competitive disadvantage to Space Data.

# DEFENDANTS' MISAPPROPRIATION OF SPACE DATA'S CONFIDENTIAL INFORMATION AND TRADE SECRETS, AND BREACH OF CONTRACT

- 24. On or about December 4, 2007, Space Data and Google executed the NDA for the sole and exclusive purpose of engaging in "discussions and negotiations concerning a proposed acquisition of shares or assets of Space Data." The NDA expressly stated that "it is anticipated that the Parties will disclose or deliver certain trade secrets or confidential or proprietary information and Google and Space Data are entering into this Agreement in order to ensure the confidentiality of such trade secrets and confidential or proprietary information . . . ." Ex. A Redacted 2007 Non-Disclosure Agreement between Space Data and Google.
- 25. Shortly after execution of the NDA, Space Data provided Google with access to Space Data confidential and trade secret information, including the information recited in paragraphs 18-19, above, such as: (1) Space Data's proprietary financial information; (2) business concepts addressing the use of balloons for transmission of wireless service; (3) use of implementation of the balloon constellation in a narrowband network; and other information, all of which was marked confidential.
- 26. On or about February 15, 2008, 11-13 members of Google flew via their corporate jet to Mesa Gateway Airport to visit Space Data's facilities for an entire day. Included among the Google team were the founders of Google, Larry Page and Sergey Brin, who participated in the Space Data presentations and demonstrations of Space Data's proprietary technology. Indeed, Mr. Page and Mr. Brin participated in demonstrations in which they launched Space Data's

CASE NO.: 16-3260

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27 28 balloons. Ex. B - February 15, 2008 Space Data balloon launch by Sergey Brin; Ex. C - Pictures of Google employees and founders at Space Data facilities.



Figure 1. Photograph of February 15, 2008 Space Data balloon release by Sergev Brin, co-founder of Google and President of Alphabet. Attached as Ex. B.

- 27. Space Data and Google engaged in extensive discussions about Space Data's business, including its technology, and its financial model, and Google was also given access to Space Data's balloon production line and network operation center where they saw a map of balloons in the sky and the wireless communications coverage Space Data was providing across 1/3 of the United States.
- 28. During Google's February 15, 2008, visit to Space Data, the confidential "Ubiquity" business model, created by Space Data, was proposed to Google. Project Loon is employing the same "Ubiquity" business model originally developed by Space Data. Ex. D – Redacted Slide 11 from February 15, 2008 Space Data Presentation to Google.
- 29. On February 19, 2008, following the February 15, 2008 meeting, Eric Frische, an employee of Space Data, sent Google a list of non-exhaustive items which Space Data disclosed to Google and which Space Data considered confidential information and trade secrets. Ex. E – Redacted February 19, 2008 list of confidential Space Data items.
- 30. On or about February 24, 2008, Minnie Ingersoll, a member of the Google team who had visited Space Data's facilities on February 15, 2008, sent Space Data an e-mail stating SPACE DATA CORP.'S COMPLAINT FOR, INTER ALIA, CASE NO.: 16-3260 PATENT INFRINGEMENT

that Google will not engage in further discussions with Space Data "in the near term," ostensibly because Space Data had communicated with the Wall Street Journal about Space Data's business.

- 31. The terms of the NDA expressly provide that this agreement shall remain in effect until it is terminated by either party with thirty days prior written notice, and that the agreement shall "survive with respect to Confidential Information that is disclosed before the effective date of termination." As of today, Defendants have never provided any such notice of termination.
- 32. Despite Google's express agreement to the terms of the NDA, Space Data is informed and believes that Defendants have engaged in other business activity based on Space Data's confidential and trade secret information, which conflict with their legal obligations to Space Data. Such activities have been to advance, among other things, the development of Defendants' Project Loon.
- 33. Project Loon was created without Space Data's permission, and the creation of Project Loon breaches the terms of the NDA.
- 34. In a March 21, 2014 TED interview with journalist Charlie Rose regarding Project Loon, Google co-founder Larry Page claimed that Google had been thinking of the idea of launching balloons for "five years or more." During the course of the interview, Mr. Rose asked "But are you at the mercy of the wind?" to which Mr. Page responded: "Yeah, but it turns out, that we did some weather simulations which probably hadn't really been done before, and if you control the altitude of the balloons, which you can do by pumping air into them or other ways, you can actually control roughly where they go, and so we think we can build a worldwide mesh of these balloons over the whole planet."
- 35. As set forth above, however, Space Data had reduced this theory and simulations to actual practice and had conducted over 15,000 flights and accrued over 100,000 flight hours of such constellations in order to understand the wind patterns by the time Larry Page and other individuals from Google had visited Space Data. This concept of "if you control the altitude you can actually control roughly where they go" was something Space Data demonstrated in February

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2008 to Larry Page personally with over a dozen balloons in the sky which were actively flying at Space Data's network control center.

- 36. According to a 2015 article in VERGE, Google X chief Astro Teller states Loon was born out of a long-standing fascination that Google's founders, Larry Page and Sergey Brin, had with high-altitude balloons, and "Either we could take something they hadn't thought about, present it to them, and get them excited . . . or we could take something they were already excited about, but no one really knew how to do and make it work." Ex. F - 2015-03-02 Project Loon interview in Verge.
- 37. Space Data is informed and believes that Defendants have unlawfully utilized Space Data's confidential information and trade secrets in violation of the NDA.
- 38. Defendants' conduct has irreparably harmed Space Data and will continue to do so if they are not enjoined from (i) utilizing and disclosing Space Data's confidential and trade secret information obtained through improper means, (ii) competing directly or indirectly with Space Data's present and anticipated business, and (iii) diverting business opportunities from Space Data.

#### COUNT I

#### (Patent Infringement pursuant to 35 U.S.C. § 271)

#### Infringement of United States Patent No. 6,628,941 A.

- 39. Space Data repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs, as set forth above.
- 40. Space Data is the assignee and owner of all right, title, and interest in and to the United States Patent No. 6,628,941 ("'941 Patent"), which was issued on September 30, 2003. A true and correct copy of the '941 Patent is attached hereto as Exhibit G - United States Patent No. 6,628,941.
- 41. The '941 Patent addresses a constellation of small, airborne communications platforms. The disclosed invention claims a plurality of small, lighter-than-air communications platforms spaced apart and floating in the stratospheric layer of the Earth's atmosphere over a contiguous geographic area.

CASE NO.: 16-3260

SPACE DATA CORP.'S COMPLAINT FOR, INTER ALIA, PATENT INFRINGEMENT

- 42. Space Data has the exclusive right to make, use, sell, and offer to sell any product embodying the '941 Patent throughout the United States, and to import any product embodying the '941 Patent into the United States.
- 43. Space Data has commercially exploited the '941 Patent by making, marketing, selling, and using products covered by the '941 Patent, including for example its popular SkySat<sup>™</sup> repeater platform, currently being used operationally by the US Marine Corps and US Army, as well as its SkySite<sup>TM</sup> network that has provided wireless services from a constellation of balloons in the stratosphere on a commercial basis since 2004.
- 44. The following describes, at least in part, Project Loon, which "uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network" (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>).
- 45. The following describes, at least in part, Project Loon: "Each balloon can provide connectivity to a ground area about 80 km in diameter using a wireless communications technology called LTE. To use LTE, Project Loon partners with telecommunications companies to share cellular spectrum so that people will be able to access the Internet everywhere directly from their phones and other LTE-enabled devices. Balloons relay wireless traffic from cell phones and other devices back to the global Internet using high-speed links" (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>).

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SPACE DATA CORP.'S COMPLAINT FOR, INTER ALIA, PATENT INFRINGEMENT

46. The Project Loon web site describes a free floating constellation communications system comprising a plurality of lighter-than-air platforms with at least a first platform and a second platform, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by

around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.



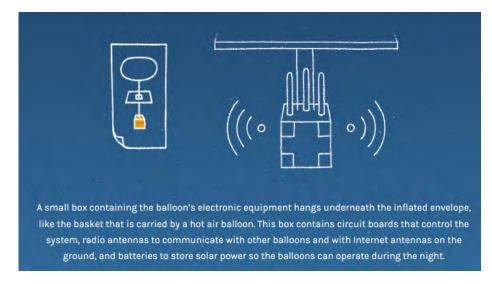
CASE NO.: 16-3260

Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

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47. The Project Loon web site describes a first and second platform comprising a communications signal transceiver, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

from the Project Loon web site (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>):

The Project Loon web site describes a free floating platform without longitudinal

and latitudinal position control carried by the winds, as shown in the following images captured

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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.



balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving

with the wind, the balloons can be arranged to form one large communications network.

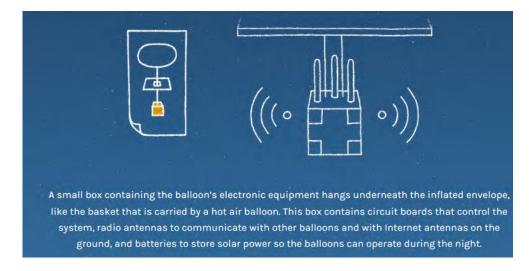
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49. The Project Loon web site describes communication devices within a geographic area having communications capability with communications signal transceivers, as shown in the following images captured from the Project Loon web site (http://www.google.com/loon/how/):

Each balloon can provide connectivity to a ground area about 40 km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology. Project Loon currently uses ISM bands (specifically 2.4 and 5.8 GHz bands) that are available for anyone to use.

#### Q: HOW DO I RECEIVE INTERNET SERVICE FROM THE BALLOONS?

A: Signals are transmitted from the balloons to a specialized Internet antenna mounted to the side of a home or workplace that use radio frequency technology. The Internet antenna is connected to a consumer grade router. Web traffic that travels through the balloon network is ultimately relayed to ground stations, where it's connected to pre-existing Internet infrastructure, like fiber cables and our local telecommunications partners.



SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

## Case 5:16-cv-03260-BLF Document 1 Filed 06/13/16 Page 16 of 34

50. The Project Loon web site shows communications devices capable of handing off communication with one platform to another platform as the first platform moves out of a communication range of said at least one of the communications devices, as shown in the following images and video narratives captured from the Google Project Loon web site (http://www.google.com/loon/how/ and https://www.youtube.com/watch?v=HOndhtfIXSY ):



"... so another balloon is coming just at the right time to take the place of one that left."

Project Lead, Mike Cassidy, <a href="https://www.youtube.com/watch?v=HOndhtfIXSY">https://www.youtube.com/watch?v=HOndhtfIXSY</a>.



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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

51. The Project Loon web site shows a free floating constellation communications system that provides a line-of-sight coverage of wireless data to a population on a contiguous landmass, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Each balloon can provide connectivity to a ground area about 40 km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology. Project Loon currently uses ISM bands (specifically 2.4 and 5.8 GHz bands) that are available for anyone to use.

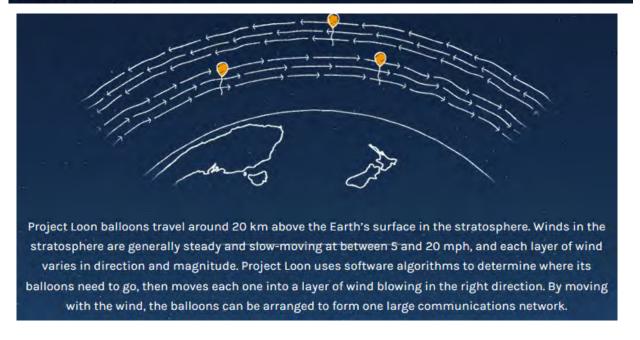
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52. The Project Loon web site shows lighter-than-air platforms that are launched in a manner such that when in an operating range of 60,000 to 140,000 feet, as shown in the following information captured from the Project Loon web site

#### Q: WHAT ARE PROJECT LOON BALLOONS?

(http://www.google.com/loon/how/):

A: Project Loon is a global network of high altitude balloons. The balloons ascend like weather balloons until they reach the stratosphere, where they drift above 18 km (60,000 ft), safely above the altitudes used for aviation. Unlike weather balloons, Loon balloons are superpressure, which enable them to stay aloft for 100+ days at a time. This is far longer than typical weather balloons, which last for a matter of hours. Loon balloons are also unique in that they are steerable and entirely solar powered.



#### Q: HOW HIGH DO THE BALLOONS FLY?

A: We are flying in the stratosphere well above commercial air traffic and weather events, at around 18-27 km or 60,000 -90,000 feet.

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53.

Loon web site (http://www.google.com/loon/how/):

Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

between the lighter-than-air platforms, as shown in the following images captured from the Project

The Project Loon web site describes that there is substantially a relative distance

- 54. Defendants have been, and are currently, directly infringing at least claim 1 of the '941 Patent in violation of 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by its Google Loon products, that practice the system disclosed in the '941 Patent of a plurality of small, lighter-than-air communications platforms spaced-apart and floating in the stratospheric layer of the Earth's atmosphere over a contiguous geographic area, as detailed in the attached infringement chart Ex. H '941 Patent Project Loon preliminary infringement chart.
  - 55. Defendants will continue to directly infringe the '941 Patent unless enjoined.
- 56. As a result of Defendants' direct infringement, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.
  - 57. Defendants will continue to irreparably harm Space Data unless enjoined.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

- 19 -

В.	Infringement of	<b>United States</b>	Patent No.	7,801,522

- 58. Space Data repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs.
- 59. Space Data is the assignee and owner of all rights, title, and interest in and to the '522 Patent, which was issued on September 21, 2010. A true and correct copy of the '522 Patent is attached hereto as Exhibit I United States Patent No. 7,801,522.
- 60. The '522 Patent addresses unmanned lighter-than-air platforms and communication devices, operating in the stratosphere, their termination, and recovery.
- 61. Space Data has the exclusive right to make, use, sell, and offer to sell any product embodying the '522 Patent throughout the United States, and to import any product embodying the '941 Patent into the United States.
- 62. Space Data has commercially exploited the '522 Patent by making, marketing, selling, and using products covered by the '522 Patent, including for example its popular SkySite<sup>TM</sup> platform, a low-cost solution for data communications in remote areas, which creates a coverage circle of over 400 miles in diameter in use across a broad spectrum of industries.

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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

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63. The Project Loon web site shows that it has deployed a system comprising a free-floating platform, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Project Loon balloons float in the stratosphere, twice as high as airplanes and the weather. They are carried around the Earth by winds and they can be steered by rising or descending to an altitude with winds moving in the desired direction. People connect to the balloon network using a special Internet antenna attached to their building. The signal bounces from balloon to balloon, then to the global Internet back on Earth.

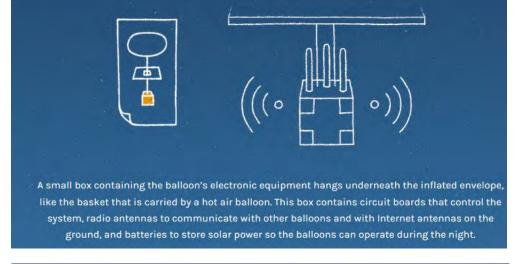


Project Loon balloons travel around 20 km above the Earth's surface in the stratosphere. Winds in the stratosphere are generally steady and slow-moving at between 5 and 20 mph, and each layer of wind varies in direction and magnitude. Project Loon uses software algorithms to determine where its balloons need to go, then moves each one into a layer of wind blowing in the right direction. By moving with the wind, the balloons can be arranged to form one large communications network.

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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

64. The Project Loon web site shows that it has deployed a system with a communications device that is separate from the free-floating platform, as shown in the following information captured from the Project Loon web site (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>):

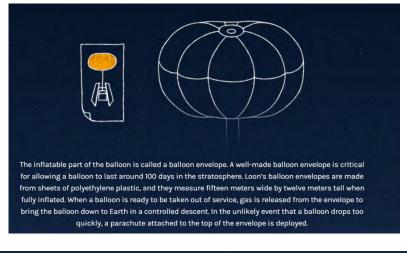




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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

65. The Project Loon web site shows that it has deployed a system with a free-floating platform comprising a lighter-than air gas enclosure, as shown in the following information captured from the Project Loon web site (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>):

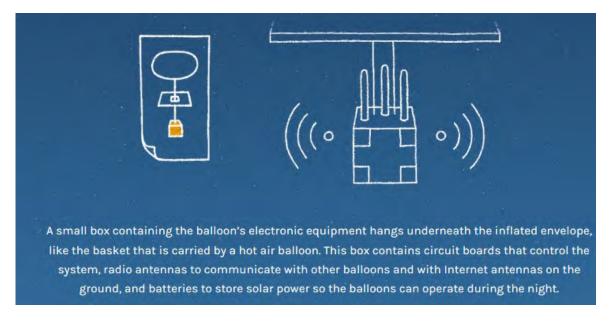




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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

66. The Project Loon web site shows that it has deployed a system with a payload comprising a transceiver, as shown in the following information captured from the Project Loon web site (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>):

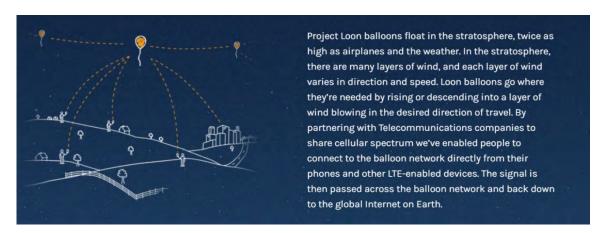


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SPACE DATA CORP.'S COMPLAINT FOR, INTER ALIA, PATENT INFRINGEMENT

67. The Project Loon web site shows that it has deployed a system with a transceiver is capable of receiving a signal from the communication device, as shown in the following information captured from the Project Loon web site (http://www.google.com/loon/how/):

Each balloon can provide connectivity to a ground area about 40 km in diameter at speeds comparable to 3G. For balloon-to-balloon and balloon-to-ground communications, the balloons use antennas equipped with specialized radio frequency technology. Project Loon currently uses ISM bands (specifically 2.4 and 5.8 GHz bands) that are available for anyone to use.



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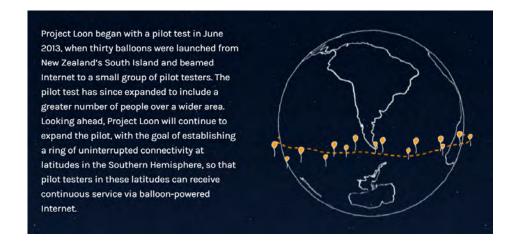
SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

#### Case 5:16-cv-03260-BLF Document 1 Filed 06/13/16 Page 26 of 34

68. The Project Loon web site shows that it has deployed a system with a communication device that is adapted to handoff the signal to another transceiver of another free-floating platform as the free-floating platform moves out of a communication range of the communication device, as shown in the following images and video narratives captured from theGoogle Project Loon web site (<a href="http://www.google.com/loon/how/">https://www.google.com/loon/how/</a> and <a href="https://www.youtube.com/watch?v=HOndhtfIXSY">https://www.youtube.com/watch?v=HOndhtfIXSY</a>):

You Table

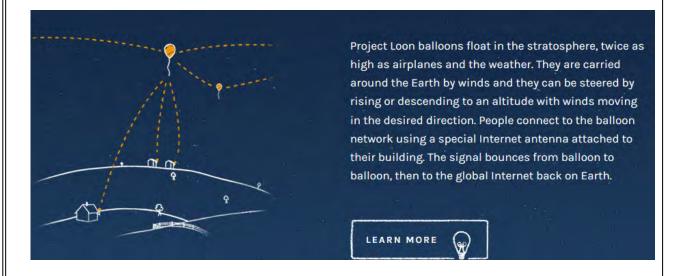
"... so another balloon is coming just at the right time to take the place of one that left." Project Lead, Mike Cassidy, <a href="https://www.youtube.com/watch?v=HOndhtfIXSY">https://www.youtube.com/watch?v=HOndhtfIXSY</a>.



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following information captured from the Project Loon web site (http://www.google.com/loon/how/):

69.



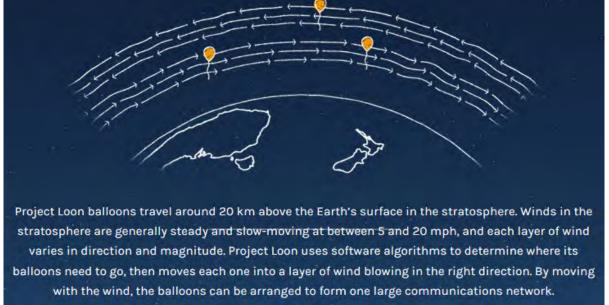
floating platform operates without a longitudinal and latitudinal position control, as shown in the

The Project Loon web site shows that it has deployed a system wherein the free-

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SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

70. The Project Loon web site shows that it has deployed a system wherein optionally the free-floating platform operates with an altitudinal control, as shown in the following information captured from the Project Loon web site (<a href="http://www.google.com/loon/how/">http://www.google.com/loon/how/</a>):



- 71. Defendants have been, and are currently, directly infringing at least claim 1 of the '522 Patent in violation of 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by its Google Loon products, that practice the system disclosed in the '522 Patent of unmanned lighter-than-air platforms and communication device operating in the stratosphere, as detailed in the attached infringement chart (*see* Ex. J '522 Patent Project Loon preliminary infringement chart).
  - 72. Defendants will continue to directly infringe the '522 Patent unless enjoined.
- 73. As a result of Defendants' direct infringement, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.
  - 74. Defendants will continue to irreparably harm Space Data unless enjoined.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

## **COUNT II**

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## (Misappropriation of Trade Secrets Pursuant to 18 U.S.C. § 1836(b))

Space Data repeats, realleges, and incorporates by reference, as if fully set forth

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herein, the allegations of the preceding paragraphs.

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76. Space Data's confidential information includes trade secrets and/or other proprietary information which derives independent economic value from not being known to, and not being readily ascertainable through proper means by, another person who can obtain economic value

from the disclosure or use of the information.

77. Space Data's confidential and trade secret information has been and continues to be the subject of Space Data's reasonable measures to keep such information secret.

- 78. Defendants misappropriated such confidential and trade secret information of Space Data in connection with the Project Loon business.
- 79. As a result of Defendants' misappropriation, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.
- 80. Defendants' misappropriation is willful and malicious and thereby entitles Space Data to an award of exemplary damages.
- 81. Defendants' misappropriation of Space Data's confidential and trade secret information has caused and will continue to cause Space Data irreparable and substantial injury and therefore cannot be fully redressed through damages alone. An injunction prohibiting Defendants from further use or disclosure of Space Data's confidential and trade secret information is necessary to provide Space Data with complete relief.

- 29 -

SPACE DATA CORP.'S COMPLAINT FOR, INTER ALIA, PATENT INFRINGEMENT

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#### COUNT III

#### (Misappropriation of Trade Secret Pursuant to California Civil Code § 3426, et seq.)

- 82. Space Data repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs.
- 83. Space Data's confidential information includes trade secrets and proprietary information which derives independent economic value from not being known to the public or other persons who could obtain economic value from their disclosure or use.
- 84. Space Data's confidential information has been and continues to be the subject of efforts that were reasonable under the circumstances to maintain their secrecy.
- 85. Defendants misappropriated such confidential and trade secret information of Space Data in connection with the Project Loon business.
- 86. As a result of Defendants' direct infringement, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.
- 87. Defendants' misappropriation is willful and malicious and thereby entitles Space Data to an award of exemplary damages.
- 88. Defendants' misappropriation of Space Data's confidential and trade secret information has caused and will continue to cause Space Data irreparable and substantial injury and therefore cannot be fully redressed through damages alone. An injunction prohibiting Defendants from further use or disclosure of Space Data's confidential and trade secret information is necessary to provide Space Data with complete relief.

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

#### **COUNT IV**

#### (Breach of Written Contract)

- 89. Space Data repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs.
- 90. Space Data has performed all of its contractual obligations under the NDA to the extent not excused.
- 91. Defendants have breached their contractual obligations to Space Data under the NDA by, *inter alia*, failing to adhere to the express confidentiality provisions it contained.
- 92. As a direct and proximate result of Defendants' breaches of contract, Space Data has been and continues to be damaged and irreparably injured, including without limitation, the loss of sales and profits it would have earned but for Defendants' actions, and damage to Space Data's reputation among potential and existing customers, business partners, investors, and in the industry in general.
- 93. As specified in the NDA, and agreed to and acknowledged by the parties, disputes relating to or arising out of a breach of such agreements may cause Space Data to suffer irreparable harm and to have no adequate remedy. Furthermore, as specified in such agreements and agreed to and acknowledged by the parties, in the event of any breach or threat of breach of such agreements, the other party will be entitled to injunctive relief, specific performance, and other equitable relief.

#### PRAYER FOR RELIEF

WHEREFORE, Space Data prays for judgment and relief as follows:

- A. Judgment in Space Data's favor that:
  - 1. United States Patent No. 6,628,941 is valid and enforceable against Defendants;
  - 2. Defendants have infringed and are infringing United States Patent No. 6,628,941;

CASE NO.: 16-3260

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, PATENT INFRINGEMENT

1		3.	An award to Space Data of damages sufficient to compensate it for
2			Defendants' past and future infringement of United States Patent
3			No. 6,628,941, together with costs and prejudgment interest;
4		4.	United States Patent No. 7,801,522 is valid and enforceable against
5			Defendants;
6		5.	Defendants have infringed and are infringing United States Patent
7			No. 7,801,522;
8		6.	An award to Space Data of damages sufficient to compensate it for
9			Defendants' past and future infringement of United States Patent
10			No. 7,801,522, together with costs and prejudgment interest;
11		7.	An award of treble damages as a result of Defendants' willful infringement
12			of the patents-in-suit;
13		8.	Defendants have wrongfully misappropriated or used Space Data's
14			Confidential Business Information; and
15		9.	Defendants breached the NDA.
16	В.	Furt	ther relief as follows:
17		1.	Permanently enjoin Defendants, their officers, agents, servants, employees, and
18			those persons acting in concert or in participation therewith from infringing
19			United States Patent No. 6,628,941;
20		2.	Permanently enjoin Defendants, their officers, agents, servants, employees, and
21	those persons acting in concert or in participation therewith from infringing		
22			United States Patent No. 7,801,522;
23		3.	Permanently enjoin the Defendants from misappropriating and/or using Space
24			Data's confidential and trade secret information and trade secret to develop
25			Project Loon or any other related business;
26		4.	Permanently enjoin Defendants from further breaching the NDA; and
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1		5. Maintaining—and, corre	espondingly, requiring Defendants to promptly deliver	
2		and turn over to Space D	Oata—any and all property or information of Space Data	
3	which are in Defendants' possession, custody or control.			
4	C.	•		
5	D.		lamages, including those allowed under DTSA and	
6		California UTSA;		
7	E.	Attorney's fees;		
8	F.	Interests and costs;		
9	H.	Such further and other relief	as the Court may deem proper and just.	
10			Respectfully submitted,	
11	Dated: June 1	13, 2016	By: /s/ Colin T. Kemp	
12			PILLSBURY WINTHROP SHAW PITTMAN LLP	
13			Hemant Keeto Sabharwal	
			(pro hac vice admission being sought)	
14			1200 Seventeenth Street NW Washington, DC 20036-3006	
15			Telephone: +1 (202) 663-8000	
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16			E-mail: keeto.sabharwal@pillsburylaw.com	
17			Kirke M. Hasson (CA State Bar No. 061446)	
18			Colin T. Kemp (CA State Bar No. 215408)	
19			Four Embarcadero Center, 22nd Floor	
			San Francisco, CA 94111-5998	
20			Telephone: +1 (415) 983-1000 Facsimile: +1 (415) 983-1200	
$_{21}$			E-mail: kirke.hasson@pillsburylaw.com	
			E-mail: colin.kemp@pillsburylaw.com	
22			David N. Patariu (CA State Bar No. 270708)	
23			401 Congress Avenue, Suite 1700	
24			Austin, Texas 78701-3797 Telephone: +1 (512) 580-9600	
25			Facsimile: +1 (512) 270-7812	
26			david.patariu@pillsburylaw.com	
27			Attorneys for Plaintiff, Space Data Corporation	
28				

SPACE DATA CORP.'S COMPLAINT FOR, *INTER ALIA*, CASE NO.: 16-3260 PATENT INFRINGEMENT

1	DEM	AND FOR JURY TRIAL		
2	Space Data demands a jury trial	Space Data demands a jury trial on all issues so triable.		
3				
4		Respectfully submitted,		
5		Respectionly submitted,		
6	Dated: June 13, 2016	By: /s/ Colin T. Kemp		
7		PILLSBURY WINTHROP SHAW PITTMAN LLP		
8		Hemant Keeto Sabharwal		
9		(pro hac vice admission to be sought) 1200 Seventeenth Street NW		
10		Washington, DC 20036-3006		
		Telephone: +1 (202) 663-8000 Facsimile: +1 (202) 663-8007		
11		E-mail: keeto.sabharwal@pillsburylaw.com		
12		Kirke M. Hasson (CA State Bar No. 061446)		
13		Colin T. Kemp (CA State Bar No. 215408)		
14		Four Embarcadero Center, 22nd Floor		
		San Francisco, CA 94111-5998 Telephone: +1 (415) 983-1000		
15		Facsimile: +1 (415) 983-1200		
16		E-mail: kirke.hasson@pillsburylaw.com		
<sub>17</sub>		E-mail: colin.kemp@pillsburylaw.com		
18		David N. Patariu (CA State Bar No. 270708)		
		401 Congress Avenue, Suite 1700 Austin, Texas 78701-3797		
19		Telephone: +1 (512) 580-9600		
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21		david.patariu@pillsburylaw.com		
22		Attorneys for Plaintiff, Space Data Corporation		
23				
24				
25				
26				
20   27				
28	SPACE DATA CORP.'S COMPLAIN	T FOR, INTER ALIA, CASE NO.: 16-3260		

PATENT INFRINGEMENT